

# FIRST-AID HANDBOOK FOR FLOODED AREAS

● *A guide to those returning to homes, farms  
and places of business that have been flooded.*



PROVINCE OF MANITOBA

These booklets are distributed free of charge to all persons returning to homes, farms or places of business that have been flooded. Such persons are advised to read this booklet thoroughly before entering any building or structure situated in an area which has been flooded.



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# Health

## ***Health Precautions in the Re-use of Flooded Premises***

Health authorities agree that buildings which have been flooded should not be used for living or business purposes until the following conditions are met:

1. The normal water supply to the premises shall have been made safe for drinking purposes.
2. Occupants shall have access to satisfactory toilet facilities.
3. All flood-contaminated rooms used for living or the conduct of business shall have been thoroughly cleaned and satisfactorily disinfected.

All decisions regarding individual compliance with the above conditions rests with the local health authority (health officer).

Two placards—a red one prohibiting the use of flooded premises and a green one approving the use of flooded premises from a health standpoint—will be used at the discretion of the local Medical Officer of Health.

The above conditions do not apply to persons re-entering their premises solely for the purposes of inspection or cleaning up.

## ***General Sanitation Procedures in the Rehabilitation of Property***

Before starting a post-flood clean-up campaign it is well to remember the nature and danger of flood waters.

The water filling basements and low-lying areas is not just the product of melted snow or ice, nor is it similar to normal stream water. Since flood waters overrun the countryside and come in contact with manure piles, garbage dumps, privies, etc., they may be heavily contaminated. This contamination may be a serious hazard to health unless suitable steps are taken to remove it.

The following suggestions will aid in overcoming these hazards. They are designed so the individual owner or tenant may carry out the major portion of his own clean-up program. The assistance of the local health authority should be sought if unusual problems are encountered.

### **CHLORINE DISINFECTING SOLUTION**

A standard Chlorine disinfecting solution is recommended because it is simple to prepare, effective and inexpensive. It may be prepared by one of the following two methods:

1. Place one-half the contents of a 12-oz. package of chloride of lime, containing from 30% to 35% of "available chlorine," OR one package of chloride of lime containing 12% of "available chlorine," in a 2½ gal. pail with

sufficient water to make a thick paste. When all the lime has been wetted, fill the pail with water and stir vigorously for one minute.

2. To half a pail of water add one pint of liquid bleach containing from 10% to 12% of "available chlorine" OR 1 quart of bleach containing 5% of "available chlorine" OR two quarts of javel water which contains 2½% to 3% of "available chlorine." Fill the pail of water and stir thoroughly.

Note: "Chlorine Disinfecting Solution" should be freshly prepared at each time of use and should not be left standing in a metal container for much more than one hour. Avoid getting this solution in the eyes. If other disinfectants are used, follow the instructions on the label.

### ***Odor Control***

Water standing in flooded cellars should be treated by distributing one pail of "Chlorine Disinfecting Solution" over the surface of the water. This should be repeated every four days or oftener if objectionable odors become a problem. Flood odors themselves while objectionable, do not endanger health.

### ***Cleaning Cellars after Flooding***

After water has been removed from the cellar, encourage drying by opening all windows and if possible by a small fire in the furnace.

Place all moveable effects outside for cleaning. Allow them to air and dry in the sunlight.

Remove all silt, mud and filth from the cellar, using a hose or buckets of water and a stiff brush or broom. Household detergents and soap will help remove oil and grease.

When the cellar has been thoroughly cleaned, areas that have been in contact with flood waters should be disinfected by using the "Chlorine Disinfecting Solution," half a pint to a pail of water. Apply this solution to walls and floors with a brush or mop or by using a spray.

Crawl space under houses should be dried as quickly as possible. Good cross ventilation will speed drying. In some cases it may be desirable to remove boards from the opposite sides of a house. These areas may be treated with "Chlorine Disinfecting Solution."

### ***Water Supply***

The provision of a water supply that is safe for drinking is a matter of utmost importance.

MUNICIPAL WATER SUPPLY—when the normal water supply to the home is obtained through a municipal pressure system, the water will be checked by local health authorities. Their approval should be obtained before the water is used for drinking purposes. The appearance of the water is not reliable as an indication of purity. Chemical and bacteriological tests must be

made to determine its safety for drinking. Before these tests are made, each hot and cold water tap, including the one at the base of the hot water tank should be run for 15 minutes. All taps which have been in contact with flood waters should be cleaned with the "Chlorine Disinfecting Solution" prepared as above. The inside of the tap should be treated by immersing the outlet in a cup of the disinfecting solution.

**DOMESTIC PRESSURE SYSTEM**—If the normal water supply to the home is distributing through a self-owned pressure system, and if any part of this system has been in contact with flood waters, the advice and approval of the local health authorities should be obtained before the water is used for drinking.

**WELLS**—Well water in flooded areas should not be used for drinking purposes until the well has been sterilized as follows:

1. Pour one gallon (about half a pailful) of "Chlorine Disinfecting Solution" into each pump.
2. Allow this to stand overnight and the next morning pump out the well until no odor of chlorine is present.
3. Before the well water is used for drinking purposes, it should be tested and approved by the local health authorities.

**CISTERNS**—Where cisterns normally used as a source of drinking water have been in contact with flood waters, the following procedure should be carried out.

1. Remove all mud and silt and clean the cistern as thoroughly as possible with pails of water and a broom or brush.
2. Apply the "Chlorine Disinfecting Solution" to the walls and floors of the cistern, using a mop, brush or broom.
3. Flush out piping leading to or from the cistern with the "Chlorine Disinfecting Solution."
4. When the cistern has been cleaned and disinfected in this way, it may be filled with water. But before using the water, add "Chlorine Disinfecting Solution" at the rate of one pint for every 500 gallons of water and mix it thoroughly by stirring. After standing for 15 minutes, the water may be used for drinking.

**TEMPORARY DRINKING WATER SUPPLY**—If there is any doubt about the safety of your drinking water, it is well to remember that it can be made safe by boiling for 10 minutes. Health officials may be extremely busy during the early rehabilitation period after the flood and may not be able to give immediate attention to your requests.

Doubtful water may also be made safe by the addition of chlorine. Local health authorities may be able to supply a simple kit for chlorination, otherwise the following procedure may be used:

Add ten drops of javel water to a 2¼ gal. pail of water, stir thoroughly and allow to stand 15 minutes before use.

### ***Sewage Disposal***

Homes shall not be reoccupied until satisfactory toilet facilities have been arranged.

**MUNICIPAL SEWERS**—Homes served by municipal sewers will be notified of the re-establishment of drainage. In certain instances re-use may be delayed by the need for sewer repairs.

**SEPTIC TANKS**—Septic tanks in areas which have been flooded will not operate again until the disposal field has dried and in certain instances until the tank itself has been checked. If early drying does not re-establish drainage through the septic tank, obtain the assistance of local health authorities. If temporary alternative disposal facilities are necessary, a simple pit or pail privy may serve the purpose.

**WARNING:** Human waste must not be disposed of on the surface of the ground or by deposit into surface water. The absolute minimum requirement for disposal is that the waste be placed in a shallow pit and covered with earth.

**PIT PRIVIES**—If the privy building remains in place it may be used as soon as the water has left the surface of the ground. One packet of chloride of lime should be emptied into the pit every three or four days as long as water remains in the pit. If the privy building has been washed away a new privy should be built as soon as possible. Great care should be taken to cover open pits to prevent accidents.

### ***Cleaning Up Yards***

After the building has been made habitable, the grounds should be cleaned. Refuse should be sorted into two piles, one of material that can be burned and one of material that cannot be burned. These piles should be conveniently located for removal by the local collection service. Where no incinerator facilities exist, the combustible refuse should be burned as soon as possible. Particular attention should be given to the removal of all material which may serve as a breeding place for flies. Insect breeding areas such as refuse and pools of stagnant water should be sprayed with Barn Spray (5% DDT in kerosene.)

## **F O O D**

***All Foods and Drugs Contaminated by Water Should be Dealt with as follows:***

1. **NON-LIQUID FOODS**, including dried fruits, cereals, flour, shortenings, spices, packaged goods, etc., should be destroyed.
2. **MEATS**, fresh and cured, should be destroyed.



3. **CANNED and BOTTLED GOODS**, including home preserves, should be destroyed where the seal is damaged or contents show seepage or other damage. Where seal is not damaged, contents may be used. It is recommended that the container be washed with hot water containing soap or other cleanser, using a brush to clean crevices, etc. Unopened containers after washing, should be sterilized by immersing for 5 minutes in a chlorine or other sterilizing solution. Contents if possible, may be boiled as a further precaution. Blown (or swollen) cans should be destroyed.

4. **BOTTLED DRINKS**—The contents of all bottled drinks should be destroyed. Washing of the outside of the bottles does not make a bottled drink safe because there is contamination under the edge of the cap. Do not accept bottled drinks that have been exposed to flood waters.

5. **VEGETABLES**—All contaminated leafy vegetables should be destroyed. Root vegetables may be used if sound, thoroughly washed and cooked.

6. **DRUGS AND MEDICINE**—All contaminated drugs and medicines shall be destroyed. No attempt should be made to replace loosened labels as this is dangerous. Even if not contaminated, unlabeled drugs should be destroyed. In disposing of contaminated drugs do not leave where they may be found by children.

7. **UTENSILS and DISHES**—These should be thoroughly washed and sterilized by boiling or by immersing in a suitable sterilizing solution for 5 minutes.

**DESTROY ANY FOOD, DRUGS, OR MEDICINE OF WHICH YOU ARE IN DOUBT.**

Enquiry may be directed to:

Local Medical Health Officer or

Regional Food & Drug Office,  
Dept. of National Health & Welfare,  
Aragon Bldg., 244 Smith St.,  
Winnipeg, Man.

Phone 928 494

Food and Dairy Division,  
City Health Department,  
City Hall,  
Winnipeg, Man.

Phone 849 189

Bureau of Food Control,  
Manitoba Dept. of Health & Public Welfare,  
Winnipeg, Man.

Phone 37 131

# Buildings

## THE HOME

### *Entering the House*

Before entering a building, make sure it is safe and not ready to collapse. All doors and windows that have been submerged will be swollen tight. When entrance must be made by force because of swollen doors, accumulated mud, or bulged floors, enter by a window or other opening, and then remove the pins of the door hinges by lifting them with a screw driver and hammer. Be sure the door is unlocked and then push it in from the outside without damaging it. On entering, bear in mind there may be holes in the floor or loose boards with sharp nails lying around. After dark use a flashlight for safety from accident or explosion.

Look for loose plaster ready to fall from the ceiling, and break it down with a stick before moving around in the building. Wet plaster is heavy, and dangerous if loose. Watch for more loose plaster as the house dries out.

Open all doors and windows where possible to dry out the house as both air and heat are essential. If windows are not too badly swollen they may be removed by taking off the small strip that holds in the lower sash (use a chisel carefully to avoid marring woodwork) and gently working out the sash from the frame. Be careful not to break the glass.

If the structure is out of plumb or if the floors are badly settled, make sure that the foundation and framework are sound before doing much renovating. If the building has to be moved, expert help should be called in unless the structure is a simple one.

Basements must be drained and cleaned as soon as possible. Remove the mud from the furnace, flues and smoke pipe.

The house should be clean and dry before any attempt is made to live in it. The premises should be drained of all remaining pools of water. Driftwood, rubbish and decaying vegetation left in the yard should be removed, burned, or buried. If the house rests on an open foundation, special care should be used in removing debris from under it as well as from under the porches until it has been determined there is no danger from caving in. Walks and fences damaged by flood waters are a hazard until replaced or repaired.

### *The Heating System*

Before starting a fire in a heating plant, examine the inside of the heater and wash the sediment from the flues with a hose or a scrub on a long stick; the flues can generally be reached through the clean-out doors above the fire door. If the heater is jacketed, clean out all mud between the stove and the outside casing. It may be necessary to remove the casing.

If the flues or passages are choked with mud, the heater may burst when a fire is started. Take the smoke pipe out of the chimney, and reach through the thimble to remove any mud from the lower portion of the chimney flue, to be sure that there will be a draft for the fire and avoid smoking up the house.

In oil-burning systems, the storage tank should be inspected to make sure seams have not been opened, allowing water and dirt to enter. The burner should be dismantled and all parts cleaned in kerosene. The air blower and fuel pump should receive attention. Housings enclosing gears should be removed and gears thoroughly cleaned with kerosene. Any grit left in gears will cause undue wear.

Any chimney that has been subjected to water action should be carefully inspected to determine whether mortar has been dissolved, leaving openings between the bricks. Most chimneys have a foundation in the ground. This foundation should be examined to learn whether undermining has occurred which might later cause the chimney to collapse.

### ***Floors, Woodwork and Doors***

After the accumulation of wet mud and dirt has been shovelled from the floors they will in all probability be found badly buckled. Do not attempt to repair them until they have had a chance to dry out. Start a fire in the heating plant but do not overheat the house. To do so would only create vapor and perhaps steam that would be absorbed by the wood and delay drying.

After the house has dried out, it may be feasible to draw some of the flooring back into place with cement-coated nails. No attempt should be made to refinish floors or to lay new floors until the wood is dry. Where only the floor finish has been damaged, the floor may be reconditioned.

Usually all woodwork that has been submerged by flood waters will be heavily coated with mud. Scrub all woodwork with a stiff fiber brush and plenty of water, to remove the silt in corners, cracks and crevices before the house is dried out. Doors and windows should be left wide open in order to dry out the entire house. Wipe floors and woodwork with a damp cloth dipped in water to which a small amount of kerosene has been added. A 5 to 10-per cent solution of borax and water, or any cleaning fluid manufactured for this purpose, may be used. Do not use gasoline or carbon tetrachloride as cleaning agents.

Take the knobs from the doors and lay the doors on a level surface with wooden strips separating them, to facilitate drying and to minimize warping and twisting out of shape. With veneered doors this is especially important. Such doors are very likely to be ruined by submersion, but some of them may be usable if they are piled properly and dried carefully to prevent separation of the plies.

Locks, especially those of iron, should be taken apart, wiped with kerosene, and oiled. If it is not feasible to remove them, squirt in a little machine oil through the bolt opening or the keyhole, and work the knobs so as to distribute the oil. Otherwise the springs and metal casing will soon rust and need replacing. Do not use too much oil or it will drip onto the woodwork and make later painting difficult.

Put off painting and redecorating until the moisture has dried from the framing, from the back of the trim, and from between walls and floors; this may take several months. Oil paint will not stay in place when applied on damp wood or plaster.

If, after the interior woodwork and walls in the house have been cleaned of the accumulation of mud and dirt, it is found that the original finish is gone, consult an experienced painter in regard to restoring the finish. If you think you can do the work yourself, be guided by the instructions on the cans of standard brands of paints and varnishes for household use.

### ***Walls and Wallpaper***

Do not attempt to wash damp plaster, it should not be rubbed or cleaned until it is bone dry. Then it may be rubbed uniformly and lightly with stale bread crumbs, sponge rubber, or a good wallpaper cleaner. With care, plaster may be wiped with a slightly damp cloth and dried immediately. Leave badly-stained walls for treatment when final redecoration is to be done.

Wallpaper hanging from walls and ceilings is difficult to restore because it is brittle and is likely to be badly stained. Ordinarily, tear it off and redecorate when convenient.

### ***Insulation***

If it is suspected that insulation in walls has been damaged by water the advice of a reputable authority should be sought.

### ***Roofs***

Damaged roof coverings may be repaired temporarily with material immediately at hand and later permanently repaired by the owner or a reputable roofing contractor.

### ***Furniture***

Take all furniture outdoors and remove as many of the drawers, slides, or other working parts as possible. These will probably be stuck tight. Do not force the drawers with a screwdriver or chisel from the front. Remove the back by cutting it out if necessary and push out the drawers. After the various moving parts of the furniture have been removed in this way, clean off all mud and dirt, using a hose stream if necessary, and then take them all indoors again and store them disassembled where they will dry out slowly.

Do not leave them out in the sun because they will warp and twist all out of shape if you do.

Some of your furniture, especially that made of solid wood, may be salvaged by regluing. Chiseling, however, is a fairly difficult job to do at home because on many places it is necessary to use clamps. Before starting this task, therefore, decide whether it is worth-while investing in this equipment and whether you have the time and ability to do the work. If you find the work too difficult to attempt, consult an expert cabinetmaker about it.

Overstuffed furniture should first be cleaned and the odor removed. If the furniture has not been dried out thoroughly, but has been allowed to stand in a damp condition a long time, the stuffing may have started to decay, and if it has, it will probably be necessary to replace the stuffing to get rid of the odor.

If, after cleaning, the upholstered material has faded or looks worn, it may be dyed or re-covered or a slip cover may be made for the piece of furniture.

The furniture may need repairing; that is, the springs may need to be cleaned, and rust removed, and oiled, the frame may need to be cleaned, and the stuffing may need to be replaced. If this is true, the furniture may be sent to an expert cabinetmaker and upholsterer, or the renovating may be done at home.

Some of your furniture on the upper floors of your house may not have been submerged, but may only have become damp because of the water below. In such cases the varnished surface may have developed white spots or a scum caused by dampness. Such defects may be removed by rubbing the surface lightly with a piece of flannel dampened with spirits of camphor or essence of peppermint, and after a few minutes, applying furniture polish. A drop or two of ammonia on a damp cloth may be used in place of the camphor or peppermint. If the spots cannot be removed in this way, it will probably be necessary to refinish the furniture.

Repairing veneered furniture is so difficult and requires so many different types of tools that it is not practical to try to do it at home.

Consult an expert cabinetmaker about such repairing, or have the store from which you bought the furniture send it back to the factory to be repaired.

Clean metal as soon as practicable, especially if it has an iron base which is likely to rust badly. Rust on iron can be wiped off readily with a rag saturated with kerosene. Then lightly coat iron hardware with petrolatum or machine oil. Polish stoves and similar iron work with a good stove polish. Wash pots and pans with soapy water to remove the kerosene, and then coat with leaf lard heated on the stove or in the oven, wipe, and put away. Clean brass and copper with a pomade or special polish; then wash it with warm, soapy water and dry it thoroughly.

## **Books**

Books and papers should be dried carefully and slowly. Books should be placed on end to dry and the leaves kept apart. After exposure to the air for a time they should be piled and pressed to keep the leaves from crumpling. This alternate drying and pressing should be continued until the materials are thoroughly dry, so as to prevent mildew. A little heat and separating of the pages are desirable toward the end of the process, to prevent musty odors.

## ***Cleaning Clothing and Bedding***

Mud-stained white cottons and linens (clothing, sheets, towels, table linens, etc.) can be cleaned with some effort. Use the services of a professional dry cleaner or launderer when in doubt.

Do not plunge white cotton and linen fabrics stained with flood-waters carrying red or yellow clay into hot soapsuds. Clay makes a stain like iron rust, and hot soapsuds will set such stains. Also be careful not to overbleach flood-stained fabrics.

First brush off all loose dirt possible. Then rinse mud-stained fabrics several times in cold water to take out particles of soil lodged in the yarns. When no more dirt can be rinsed out, wash the articles in warm soapsuds, through several waters if necessary.

In extreme cases, try bleaching white cottons, linens, and rayons in jewel water, in sodium perborate, or in a weak solution of oxalic acid. Do not use on colored materials. Dry white fabrics in the sun to aid in bleaching.

To clean woolen clothes and blankets, first shake and brush well to remove as much dirt as possible. Next rinse several times in lukewarm water to remove particles of soil lodged in fibers. Then prepare an abundance of lukewarm suds from neutral soap. Or use one of the soapless oil washing materials such as are sold for hair shampoos. Squeeze and work in the suds without rubbing. Press out the excess water and wash in a second suds of the same temperature. Never boil wool materials. Rinse free from soap in several changes of lukewarm water.

Woolens should be dried in a warm place but not near a fire or in direct sunlight. Never allow them to freeze. Hang knitted underwear from the shoulders. Spread sweaters and other knitted garments on a table and shape according to desired dimensions.

Hang blankets over a line—or two lines close together—to share the weight.

Press wool garments while still damp with a medium-hot iron, and protect with a pressing cloth if they are to be ironed on the right side. Be sure to leave a little moisture in the wool or it will look hard and lifeless. To clean silk and rayon articles, remove mud and other loose dirt in the way recommended for cotton and linen articles. Wash in an abundance of lukewarm suds, according to the directions given for woolens. Dry in the shade and, while still damp, press on the wrong side with a warm iron.

Mildew stains are caused by a fungus growth. If mildew has penetrated the fibers and been there for some time, the stain cannot be removed without damaging the cloth. Lemon juice, sodium perborate, and javel water will bleach out mildew stains on white cotton, linen, and rayon.

Mattresses soaked with floodwater are generally damaged beyond use and should be discarded, as reconditioning is too difficult to be done at home. A sufficiently valuable mattress or one of the inner-spring type may be sent to a commercial renovating company, where the stuffing will be taken out and thoroughly cleaned, the ticking cleaned and retreed, and the whole put together again in a mattress frame.

Transfer the feathers from pillows to a muslin bag two or three times the size of the ticking. First sew the edges of the openings of the ticking and the bag together, then shake the feathers from one to the other. Wash the bag of feathers in lukewarm soapuds, repeat, and rinse in lukewarm water, changing it several times. Squeeze out all of the water possible, and lay the pillows flat on a sheet to dry in the sun or in a warm place, or pin them to the line to dry in the open air. Another good way is to lay them flat on a window screen which has been propped up off the ground. Shake up the feathers occasionally to hasten the drying. If the pillow has stood for a long time in floodwater, it may be impossible to remove all traces of offensive odor. While the feathers are drying wash the ticking. When it is dry, apply a very stiff starch mixture to the inside with a sponge to keep the feathers from working through. When both feathers and ticking are thoroughly dry, refill the ticking in the same way that it was emptied.

Flood-soaked thick comforters of cotton or wool, like mattresses, are very difficult to recondition. The only way is to take them apart and wash the cover and filling separately and then refill and tuft them together.

Lightweight quilts may be washed like cotton or wool blankets and, if possible, should be dried quickly out of doors in the sun to remove the unpleasant odor.

### ***Cleaning Rugs and Carpets***

Let rugs and carpets dry out thoroughly. Then clean by beating or sweeping or by using a vacuum cleaner. If necessary shampoo them with soap jelly. Leave large rugs on the floor or spread them out on a porch. For convenience work with small rugs on a table near the sink or laundry tub.

Make the soap jelly with one quart of mild soap flakes dissolved in five parts of hot water. Beat with an egg beater to form a stiff lather and apply with a brush or sponge to a small part of the rug at a time. Scrub gently. Then wipe off the dirty lather and rinse this section immediately with clean water. Work over the surface of the rub in this way in overlapping sections so as not to leave streaks, and when rinsing for the last time brush the sap in one direction.

After shampooing them, dry the rugs or carpets as quickly as possible by hanging them up and exposing them to a circulation of warm, dry air. Make sure they are thoroughly dry, for even though the surface seems dry, any moisture remaining at the base of the tufts will quickly rot the rug, causing it to fall apart.

Under ordinary circumstances there is danger of colors running and rugs shrinking when shampooed by home methods, but with articles badly damaged by floods, it is generally a case of reconditioning them for any possible use.

After such treatment some types of machine-made pile rugs may need resticking to make them lie flat on the floor. Dissolve one-half pound of granulated glue in one gallon of boiling water. Lay the clean rug face down on papers in some part of the house where it can remain undisturbed, and tack it down at intervals, being careful to have it straight and true. Then with a whitewash brush or a whisk broom, brush the hot glue over the back of the rug, and let it dry thoroughly.

**Caution.** Do not use so much glue that it will soak through to the right side of the rug.

### ***Cleaning Upholstery Fabrics***

To clean upholstery fabrics, follow the directions for rugs and carpets, first brushing off all loose dirt and then shampooing the fabric with a lather of mild soap, and rinsing quickly.

If the entire piece of furniture has been submerged, joints may be loosened and springs may be rusted. If springs can be reached, rub them with oil or kerosene.



# **Electrical**

## **VITAL INFORMATION TO USERS OF ELECTRICITY**

*When Buildings and Equipment have been affected  
by Flood Waters*

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### **BUILDING WIRING**

**Wet Wiring Is A Possible Hazard To Life and Property**

#### ***Inspection***

The Provincial acts and Municipal by-laws require inspection of electrical wiring by the proper authorities, before the electric power utilities are permitted to supply the premises with electric current.

In flooded areas where electric service has been cut at the service entrance or at the pole, the wiring is required to be inspected before it is returned to service. In flooded areas where the electric wiring has been partially or fully covered by water, if the electric service has not already been cut off, proceed as follows: Standing on a dry platform and using a dry stick, pull the switch handle of the entrance switch or the yard pole switch into the "open" position, then apply for an electrical inspection before placing the wiring in service.

If temporary electric services or if partial electric services are in use, re-inspection is necessary before full service is restored.

#### ***Where to Secure the Electrical Inspection of Wiring***

In the City of Winnipeg—the Electrical Inspection office is located at 223 James Avenue, telephones 849 113, 849 251, 849 252. District offices may also be established.

In the municipalities adjacent to Winnipeg—call at or phone your municipal office, or other location later designated. Or, you may call the Provincial Department of Labor, telephone 907 474, 907 251, 907 252, 907 269.

In Manitoba Power Commission supply areas—contact your local M.P.C. representative or the M.P.C. Head office, 902 Canada Building, telephone 933 551.

#### ***Inspection Requirements***

When your building wiring is checked by an electrical inspector, he will leave a report showing what reconditioning or replacement work, if any, is required to be done before electric service is reconnected. It is then the responsibility of the building owner to arrange to have this work on the building wiring done by a licensed electrical contractor or electrician.

If you do not have your own electrician and if you live in the Greater Winnipeg area, a list of electrical contractors and electricians who are co-operating

with the Manitoba Electrical Association in rehabilitation work may be obtained from the Association's offices, 21 Trans-Canada Building, telephone 927 187. If you live in an area served by the Manitoba Power Commission, the names of licensed electricians may be obtained from the Commission's representatives.

**Inspection reports or tags must be carefully preserved until work is complete and electric service is restored to the premises.**

### ***Reconnection of Electrical Supply by your Electric Utility***

The electric utilities may not reconnect your electric service until the inspection requirements have been met.

*In the City of Winnipeg*, as soon as the inspection requirements have been met, the City Electrical Inspection office will advise your electric power utility that your electric service may be reconnected.

*In the municipalities adjacent to Winnipeg*, as soon as the inspection requirements have been met the municipal electrical inspector will notify your electric power utility that your electric service may be reconnected.

*In Manitoba Power Commission areas*, the Commission's electrical inspector will himself arrange for reconnection of the service when its condition is satisfactory.

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The preceding steps are those required in order to have your electrical service reconnected to your home or other building premises. When these steps have been taken, electric current may again be turned on the permanent wiring of your building.

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IT IS EQUALLY NECESSARY TO ATTEND TO THE  
CONDITION OF EVERY ELECTRICAL APPLIANCE  
WHICH HAS BEEN FLOODED OR OTHERWISE  
WETTED, IN ACCORDANCE WITH THE FOLLOW-  
ING SECTION ON "RECONDITIONING."

### **RECONDITIONING OF ELECTRICAL APPLIANCES AFFECTED BY FLOODING**

**No attempt should be made to try out or to operate any electrical appliance until the wiring in your home or building has been inspected and found safe.**

**DO NOT PLUG IN OR USE ANY ELECTRICAL APPLIANCE THAT HAS OR MAY HAVE BEEN WET UNLESS IT HAS BEEN CAREFULLY INSPECTED BY A COMPETENT ELECTRICIAN OR SERVICEMAN. IT MAY BE DANGEROUS TO USE, SINCE INSULATION WHICH IS WET CAN RESULT IN A SEVERE OR EVEN FATAL SHOCK.**

The principal damage from flooding to electrical appliances will be that arising from wet motor windings, wet electrical insulation, wet heat insulation in refrigerators and ranges, rusting or corrosion of metal parts, silt in switches and automatic controls, etc.

An appliance may be further damaged if it is plugged in while damp; for example, a motor if reconnected while damp may have to be rewound or replaced entirely. Equipment which may appear dry may still be damp internally.

In many cases the appliance dealer or the electrical utility from whom you purchased the appliance will have service facilities available to him through which appliances can be checked over and any essential drying or repairs made.

## SPECIAL PRECAUTIONS REGARDING INDIVIDUAL APPLIANCES

(These should be checked by your serviceman or electrician)

A brief description of the treatment which should be accorded each of the various appliances now follows this index of items

Appliance	Section No.	Appliance	Section No.
Appliance cords	1	Mixers	7
Bell ringing transformers	1a	Motors	7
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(NOTE: The partial use of information prepared by the B.C. Electric Company Limited is hereby acknowledged)

### 1. Appliance Cords

A damp cord is hazardous to the user and to children. Preferably it should be destroyed and replaced, if this is not possible, thoroughly dry it with a gentle heat below 200° F.

### **1a. Bell Ringing Transformers**

If damp or wet, discard the bell ringing transformer and have a new one installed. This is an inexpensive item, and one cannot be sure that after a wetting such a transformer will again be safe.

### **2. Blankets (electric) and Heating Pads**

Examine the manufacturer's directions or consult your dealer about these items. If the article can be washed carefully, do so in accordance with directions, then dry thoroughly for twice the period of time needed to make it seem quite dry. Keep in mind that the controls may be inoperative and corroded due to immersion in water—this is a matter for your dealer or service man to attend to.

### **3. Brooders and Incubators**

1. BOX (cabinet)  
Dismantle—thoroughly dry out—replace insulation.
2. WIRING  
May require replacement.
3. THERMOSTATS  
Thoroughly dry and clean—these may need replacement.
4. FAN—Treat as shown under paragraph "Motors—General."
5. ELEMENTS—Treat as elements for Ranges.

### **4. Clocks—Electric**

Water and silt will have entered the precision bearings and gear train used in this appliance. Repairs by a competent shop will be required for lasting operation.

### **5. Kitchen Appliances—hotplates, irons, kettles, percolators, toasters, waffle irons**

These appliances should be thoroughly dried out before using. The element of an electric iron may have to be renewed. Silt and corrosion may impair the automatic features of irons and toasters, in which case the services of a competent repair shop or serviceman are necessary.

### **6. Milking Machines**

1. MOTOR—treat as shown for "Motors—General."
2. LINES or TUBING—pump out, flush thoroughly, sterilize very carefully.
3. PUMP ASSEMBLY treat as "pump mechanism" under Electric Water Systems, then flush and sterilize.

**7. Motors—General—**from washing machines, stokers, ironers, electric water systems, other motors in general

Any attempt to operate a motor with wet windings usually results in burning out the motor

Where immediate return of a small size motor to service is necessary, the purchase of a replacement motor should be considered.

The rehabilitation of a damp or wet motor consists chiefly of dismantling, cleaning, removing silt from bearings, wells and switch mechanism, baking of windings to remove moisture content, reassembling, reoiling.

**8. Other Motor-Driven Appliances—**such as fans, kitchen mixers, vibrators.

Treat as shown for "Motors—General."

**9. Radios**

If a chassis or speaker of a radio set has been under water the cost of repair may be prohibitive. Moisture may be the cause of extended breakdowns of condensers, etc. Consult a competent radio serviceman as to the best possible course of action. In many cases the purchase of a new radio may be most satisfactory and least expensive.

**10. Ranges (electric) and Rangettes**

The nature of the work which is required on a watersoaked range is such that it can be done only in a competent repair shop.

The principal damage to a range which has been partly or completely immersed will be soaked heat insulation around the oven, weakened or destroyed electrical insulation on the wiring, water-logged switches, controls, and semi-enclosed surface burners. The work involves

**1. SWITCHES**

Range switches that have been submerged may operate briefly but in due course will probably break down and have to be replaced. A flush type switch (where you see the button only) is very difficult to dry out. The drying out of an older style surface type switch can be aided by removing the switch cover.

**2. OVEN CONTROLS**

The oven control may work for a while, but as the moisture will break down the insulation of the coil it will probably have to be replaced.

**3. SURFACE BURNERS**

- (a) The old style open burners will probably work without trouble provided they are dry and silt has been removed.
- (b) Tubular types, such as used in Hotpoint and Frigidaire ranges should be lifted and the terminals well wiped.

- (c) Some of the closed-type elements such as Moffat "Red Spot," McClary "Redhead" are protected and may often withstand moisture.

Other types are semi-enclosed with a metal cover over a porcelain brick and element, such as Moffat "Cook Quick" and "Bakkor," and these will probably have a high moisture content. They may fail due to porcelain cracks or the element wire touching the top metal plate.

#### 4. WIRING WITHIN THE RANGE

Most wiring within the range is asbestos covered and is likely to have perished. Remove drip pan or take any other steps to get as much air circulating into the wiring as possible.

#### 5. FUSE RECEPTACLE

Thoroughly dry out the receptacle.

#### 6. OVEN INSULATION

Most ovens are insulated either with rockwool or glasswool, which is like a sponge for absorbing moisture. When wet, it will no longer act as a heat insulator and may also cause the wires leading to the oven element to short circuit. When dried out it may disintegrate and have no insulating value. Replacement of this insulation is a job for an experienced serviceman.

### 11. Refrigerators

Refrigerators, including household boxes, home freezers, milk coolers and walk-in boxes, can be classified into two general types.

- (a) Belt-driven with exposed motor
- (b) Hermetically sealed unit type, which in most cases has the motor enclosed and protected.

Any refrigerator cabinet that has been partially or wholly immersed will have wet insulation, which has no value as heat insulation. It cannot be dried without removal.

The only proper solution is to have the refrigerator overhauled by a competent service organization.

Open-type motors will have to be replaced or dried out.

Controls, relays and wiring will have to be checked. They may not operate properly if they are holding any moisture.

The operating mechanism in a hermetically-sealed unit will probably not have been affected by flood waters and may only need to be cleaned off.

In all cases, before using be sure to thoroughly clean and wash down the interior and the exterior of the refrigerator.

On the conventional belt-driven type of compressor unit, moisture might have entered the refrigeration system. This will soon become evident. After starting up, the unit either continues to run without refrigeration, or it stops completely.

## **12. Time Switches**

Treat as for clocks.

## **13. Vacuum Cleaners**

Treat as for "Motors-General."

## **14. Washers and Ironers**

1. MOTORS—Treat as shown under paragraph "Motors General."

2. GEAR BOX and WRINGER HEADS.

Water may have entered the box which contains lubricating oil or grease. The necessary repair is to strip down the box, flush out with kerosene or solvent; thoroughly clean, re-assemble, add new oil or grease of the recommended consistency

3. IRONER SHOES and THERMOSTATS.

There are several types of electric elements used in ironer shoes. In cases where the electric element is placed between mica sheets, water may have entered, in which case the shoe should be stripped, parts thoroughly dried and element checked before re-assembling. In shoes using other types of element, the element itself may not have been affected but the shoe should be stripped and thoroughly cleaned out.

## **15. Water Heaters**

(a) IMMERSION TYPE, IN INSULATED TANK

The head (connection box) of the heater may have to be dried out, or the heater replaced. Call your electrical utility or serviceman. The heat insulation around the tank may have sagged. It should be lifted, but is likely to dry itself out in a week to ten days. In some cases the insulation may have to be replaced.

(b) WRAP-AROUND HEATERS, also "PACKAGE" HEATER UNITS

If such a water heater installation has been partly or wholly submerged, the only proper solution is overhaul by a competent service organization. Heat insulation may require replacement, the wiring may require replacement, and thermostats and elements require drying and checking.

## **16. Water Systems**

1. **MOTOR**—Treat as shown under paragraph "Motors—General."
2. **PUMP MECHANISM**

In most pumps there are breather holes through which water and sediment may enter the casing and mix with the oil. In these cases the pump should be dismantled, cleaned out and fresh oil added. The inlet screen on the suction valve will probably need cleaning. Do not drain off the old oil and water mixture until ready to clean and put in fresh oil, otherwise interior parts will rust.

3. **FOOT VALVE**

Some pumps have a foot valve and screen in the well at the bottom of the suction pipe. This may have become clogged, in which case it should be hauled up, cleaned, flushed out and re-installed. Note When reinstalling, be sure that the suction line clears the bottom of the well.

4. **PRESSURE SWITCH or CONTROL**

These switches are usually inside a metal box which will probably be full of water. This necessitates thorough drying out and cleaning. Rusted parts must be thoroughly cleaned or replaced.



# Agriculture

## THE FARM

### *Livestock and Feeds*

Water alone does not necessarily injure feed. The principal danger in feeding hay, grain, or forage that has been wet is caused by changes in feed resulting from mold, putrefaction, and fermentation. If feed has only recently been wet and it can be dried quickly, there is much less danger than when the wet condition is of several days' or weeks' duration.

Wet hay should be spread out to dry and turned and shaken frequently. It may be handled in much the same way as hay that is being made from freshly cut grass. Bales of hay should be opened and well spread out. Wet grain should be spread out and dried as quickly as possible. Small quantities for immediate use may be dried fairly quickly in artificially heated, well-ventilated buildings.

Feeds that are slightly musty or partly spoiled are more likely to injure horses than cattle, and hogs will tolerate still poorer feeds. But there is a distinct risk in giving feed that is spoiled in any degree. Under no circumstances should spoiled feed be given when sound feed is available. Livestock may, however, tolerate small quantities of inferior feed, and such feed may be given to sustain life until supplies of safe feeds can be obtained. The principal danger is from digestive disturbances and so-called forage poisoning.

The presence of sand or dirt in feed is not a noteworthy danger since animals normally consume small quantities of dirt. However, the presence of considerable quantities of such matter tends to make feed unpalatable. It is therefore advisable to remove the dirt by sifting, shaking, or other means.

### *Disposal of Animal Carcasses*

The disposal of dead animals will present a difficult problem. In most flooded areas access to these carcasses by any form of vehicle will be delayed until the ground has dried. The services of a rendering plant should be used if they are available and if the carcasses can be reached for transportation.

In most areas, final disposal will be by burial. Until this can be arranged one of the most effective means of controlling odor is to cover the carcass with ordinary lubricating oil. Chloride of lime may also be of value in odor control. In choosing a burial site be certain that subsurface drainage will not reach the water supply of persons or livestock.

Cremation is particularly effective in disposing of the carcasses of hogs and fowl.

### ***Infectious Diseases***

In the wake of flood waters there is some danger of infectious diseases, but unless serious outbreaks of infection have occurred recently, the danger is not sufficiently great to be alarming.

### ***Trash in Pastures***

Before restocking pastures that have been flooded, make an inspection of them, especially along fence lines and corrals. This precaution should prevent cuts and other injuries to livestock from pieces of barbed wire, sharp metal, and other trash accumulated in fenced enclosures.

### ***Ditches and Drains***

Clean out farm ditches and drains promptly in order to remove excess moisture from the soil and fit the fields for cultivation and to avoid danger to public health that may result from stagnant water.

Clear outlet ditches of debris, drift, silt bars, and shoals to provide good outlet for field ditches and drains. In the smaller ditches, bars can be removed with shovels or with teams and scrapers. In the larger ditches dynamite frequently can be used to advantage. Start the work at the lower end of the ditch so as to get rid of standing water that will impede the work.

### ***Insect Control***

Control of insects in flooded zones will be an important problem. Screens should be repaired to keep out flying insects. Apply a solution containing five per cent of DDT in oil to all screens to kill the insects alighting there. This treatment will be especially helpful in keeping out gnats, midges, and other small flies that would normally enter between the meshes of ordinary screening. It will also serve as protection against mosquitoes and many other insects that breed abundantly in standing water, stagnant pools, and damp debris in low spots.

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## **TRACTORS, CARS, TRUCKS AND FARM IMPLEMENTS**

### ***Engines***

Corrosion by rust is much more rapid when air and moisture combine to attack parts. Completely submerged parts will rust only slightly while under water but should be cared for as soon as possible once the machine can be looked after. Facilities for complete cleaning and starting should be available before beginning to fit the tractor for service.

ALLOWING THE TRACTOR TO STAND FOR SEVERAL DAYS AFTER DRAINING WITHOUT GETTING IT DRIED OUT, HEATED, AND NEW OIL ON PARTS MAY CAUSE MORE HARM THAN THE LENGTH OF TIME THE ENGINE WAS COMPLETELY UNDER WATER.

Drying of wiring and electrical units must be thorough to avoid short circuits and possible burning out of coils, etc. Where serviceable units such as starters, batteries, etc., can be substituted it may reduce the time of getting the tractor into service, thus reducing the rusting of internal parts. Because of rapid rusting once the tractor is opened it is more important to prepare the fuel and electrical systems first than to start by draining the engine proper.

The electrical parts should have covers removed and dried by a blast of air where possible. If heat is applied to electrical units it must not exceed 120° F to avoid damage to insulation. Pyrene is a fluid which can be applied by spray or dipping to electrical parts and bearings—this application of pyrene helps remove water and silt and will evaporate and dry out readily. The battery must be removed and drained, washed out with distilled water and then filled with acid and recharged. The whole fuel system should be drained and flushed, tank, lines, filters, and carburetor. The air cleaner should be drained, cleaned and refilled with fresh, clean oil. Be sure the radiator core is clean and if filled with silt and debris it should be washed out to assure good cooling.

The next job is to drain the crank case transmission and all gear cases. Remove the spark plugs. Watch closely for silt deposits, and, if serious, remove the necessary parts and clean. The engine may then be turned over by hand to work out the water from over the pistons. Oil can then be poured into the spark plug holes—as much as a cupful for large cylinders. This will help remove water and lubricate the cylinder rings, etc.

A flushing oil of 1 kerosene and 1 No. 10 S.A.E. motor oil should be prepared. This can be used to refill crankcase, gear boxes, transmission, etc., to normal levels. Chassis grease should be used to re-grease all chassis bearings for eliminating water and silt. Front wheels should be removed, bearings washed and re-greased. Oil filters should be removed and replaced with a new filter.

When the above servicing is carried out the engine may be safely started. With no load, or light load, the unit should be driven. Shutters should be used to run the temperature of the motor up to 120° F or 130° F. Watch the instruments closely and correct any indication of trouble. After two hours of operation drain all cases and change the oil filter. Refill with oil of standard recommendation. The car, truck or tractor can then be put into normal use. If it is considered that silt will have worked into the parts seriously, another change of lubrication throughout is recommended, plus a new oil filter at, say, the end of two hours.

On combines or other motors which will not be used for some time the same procedure should be carried out to ensure complete drying. For storing afterwards a special oil can be used which inhibits rust. This oil can be applied by rag, brush or spray to all machine parts which show signs of rust after the parts have dried out. If the corrosion inhibitor oil is of the type

recommended for internal use, then it can be poured into the spark plug holes and worked around into rings and valves by hand-turning of the engine, in the case of engines dried out and being started. Another method is to remove the air cleaner with engine running and throw a pint of this oil into the carburetor as the engine switch is turned off. This thoroughly works the oil into rings, valves and cylinders when warm and dry.

Extra lubrication of all wearing parts is important to work out water, rust and silt. Where overhauls were indicated before the flood, this work should be done immediately after the flood. A compression tester can be used to test engine cylinder pressures if there is indication of piston ring seizure.

Where heavy duty oil has been used prior to the flood the oil may become grey and thick with water and carbon in a short time after starting the engine. The oil dip stick should be carefully and frequently checked for the first ten hours of operation. If greying or thickening occurs then drain and refill with clean oil and again replace the oil filter.

As will be seen from the above recommendation, immediate removal of water and moisture is necessary. Plenty of fresh lubrication will work rust and silt. If this is done immediately, the possibility of a major overhaul being required is reduced.

### ***Farm Machinery***

Before trying to operate any machine inspect it carefully and remove all dirt and debris.

Clean and oil all bearings, sprockets, chains, and gears not protected against the entrance of water and grit. Sometimes bearings equipped with grease cups or alternate or zerk fittings can be sufficiently cleaned by forcing grease or oil through them until a considerable amount has oozed out from the sides of the bearings.

After cleaning the bearings and replacing the parts removed, carefully turn over the moving parts of the machine by hand to make sure that they work freely and that no dirt or debris remains to interfere with operation of the machine.

It is very important to do the above cleaning and oiling on all machines as soon as they are accessible. The rust inhibiting type oil mentioned above is most effective when storing machines for some time. It is highly recommended for such things as cultivators, shovels, moldboards and all places subject to rusting in storage.

## ***Flood Memoranda***

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This booklet is prepared, published and distributed by the Government of Manitoba in the hope that it may assist those returning to homes, farms and places of business that have been flooded. The government gratefully acknowledges the material supplied by the following: Municipal Inspection authorities, City of Winnipeg Hydro Electric System, Winnipeg Electric Company, Manitoba Electrical Association, Winnipeg Health Department, The Central Mortgage and Housing Corporation, and the City of Winnipeg Re-Establishment Committee.

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Owing to the wide range of conditions in the flooded areas, these suggestions are necessarily general in nature. They deal largely with basic principles whose application will vary with local conditions. Local regulations and instructions from officials in charge of rehabilitation work will take precedence over the general information contained in this publication.